

IN THE CLAIMS

Please cancel claims 1, 12-17, 19, 21-39, 41, 42 and 44 without prejudice, and without dedication or abandonment of the subject matter thereof. The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Canceled).
2. (Previously presented) A production method for a boron carbide sintered compact comprising the steps of:
 - coating boron carbide powder with a polymer organic substance that is substantially insoluble in water;
 - mixing the coated boron carbide powder and water to form a slurry;
 - producing a compact from the slurry; and
 - sintering the produced compact,wherein the polymer organic substance exhibits a function as a sintering aid of the powder when sintered so as to control the grain growth of boron carbide, and a part of the sintering aid is taken into boron carbide crystals, and
 - wherein the porosity of the sintered compact is 10 volume % or less.
3. (Previously presented) A production method for a boron carbide sintered compact according to claim 2, wherein a volume fraction of the powder and the polymer organic substance in the mixture is 1 - 40 parts by volume of the polymer organic substance to 100 parts by volume of the boron carbide powder.
4. (Previously Presented) A production method for a boron carbide sintered compact

according to claim 2, wherein the slurry is poured into a porous mold to let the mold absorb a part of the water, thereby producing the compact.

5. (Canceled).

6. (Canceled).

7. (Previously Presented) A method according to claim 2, wherein the produced compact is dried, and then the dried compact is sintered.

8. (Canceled).

9. (Previously presented) A method according to claim 2, wherein all or a part of said sintering step is performed in a non-oxidizing atmosphere, such that the polymer organic substance is reformed to a substance which contains carbon from the polymer organic substance as its main component, and the substance containing the carbon as its main component exhibits a function as a sintering aid of the powder.

10 - 17 (Canceled).

18. (Previously presented) A production method for a boron carbide sintered compact according to claim 2, wherein the polymer organic substance functions as a compacting aid for providing at least one of plasticity and strength to a compact or its precursor in the compacting step.

19. (Canceled).

20. (Previously Presented) A production method for a boron carbide sintered compact according to claim 2 wherein the average particle size of boron carbide powder is $0.3 \mu\text{m} \sim 1.4 \mu\text{m}$.

21 - 42 (Canceled).

43. (Previously Presented) The method according to claim 45, comprising a further step of performing HIP treatment on the sintered compact.

44. (Canceled).

45. (Previously Presented) The method according to claim 7, wherein the sintering step is performed under atmospheric pressure and a non-oxidizing atmosphere.

46 - 47 (Canceled).

48. (Previously presented) A production method for a boron carbide sintered compact comprising the steps of:

coating boron carbide powder with a polymer organic substance that is substantially insoluble in water;

mixing the coated boron carbide powder and water to form a slurry;

producing a compact from the slurry; and

sintering the produced compact,

wherein the polymer organic substance exhibits a function as a sintering aid of the powder when sintered so as to control the grain growth of boron carbide, and a part of the sintering aid is taken into boron carbide crystals,

wherein the porosity of the sintered compact is 10 volume % or less, and

wherein the polymer organic substance is selected from the group consisting essentially of epoxy resin, polyurethane resin, diallyl phthalate resin, polyethylene resin, polycarbonate resin, fluorocarbon resin, polypropylene resin, urea resin, melamine resin, polyester resin, styrol resin, acrylic resin, polyacetal resin, polyvinyl acetate resin, phenol resin, furan resin, polyamide resin, vinyl chloride resin, cellulose resin, and saccharides.